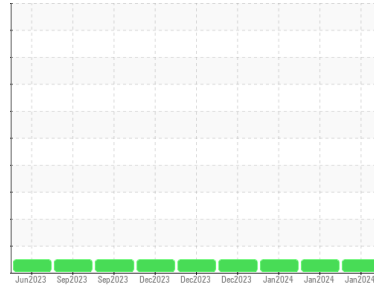




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
(413UA)
Machine Id
813012
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	GFL0108324	GFL0098178	GFL0098176	
Sample Date	Client Info	18 Jan 2024	16 Jan 2024	15 Jan 2024	
Machine Age	hrs	Client Info	3351	3341	3316
Oil Age	hrs	Client Info	3351	3341	3316
Oil Changed	Client Info	Not Chngd	Not Chngd	N/A	
Sample Status		NORMAL	NORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	9	9	26
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >5	4	2	0
Titanium	ppm ASTM D5185m >2	<1	0	0
Silver	ppm ASTM D5185m >2	<1	0	0
Aluminum	ppm ASTM D5185m >20	2	<1	10
Lead	ppm ASTM D5185m >40	1	0	0
Copper	ppm ASTM D5185m >330	2	1	1
Tin	ppm ASTM D5185m >15	2	<1	0
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	10	10	9
Barium	ppm ASTM D5185m 10	1	0	0
Molybdenum	ppm ASTM D5185m 100	58	61	55
Manganese	ppm ASTM D5185m	1	<1	<1
Magnesium	ppm ASTM D5185m 450	926	1040	919
Calcium	ppm ASTM D5185m 3000	1068	1159	1095
Phosphorus	ppm ASTM D5185m 1150	925	1095	1031
Zinc	ppm ASTM D5185m 1350	1207	1349	1205
Sulfur	ppm ASTM D5185m 4250	3121	3432	3271

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	4	4
Sodium	ppm ASTM D5185m >216	0	2	4
Potassium	ppm ASTM D5185m >20	2	<1	10

INFRA-RED

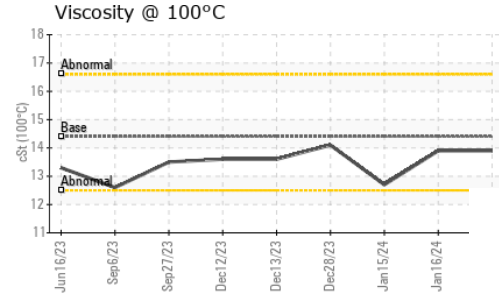
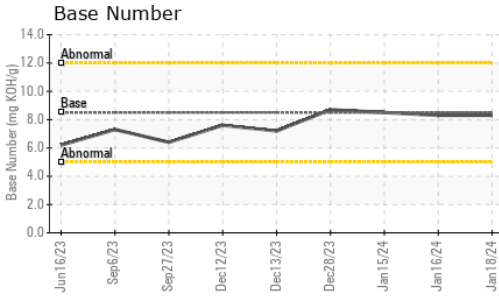
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.3	0.3	0.8
Nitration	Abs/cm *ASTM D7624 >20	7.0	6.9	8.5
Sulfation	Abs/.1mm *ASTM D7415 >30	18.5	18.5	19.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.9	13.8	15.6
Base Number (BN)	mg KOH/g ASTM D2896 8.5	8.3	8.3	8.5



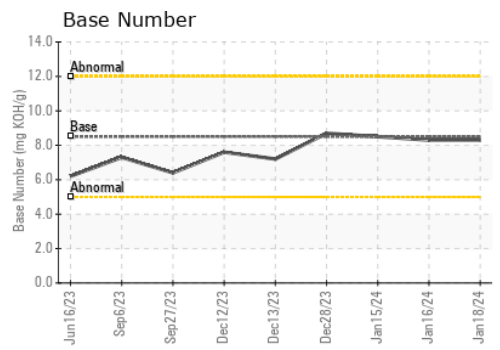
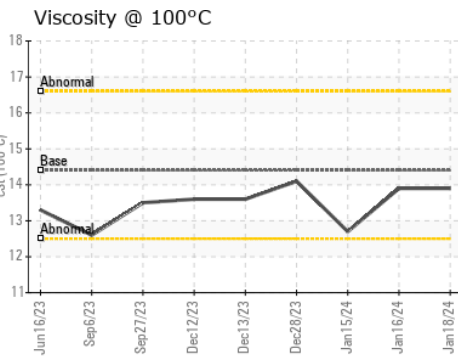
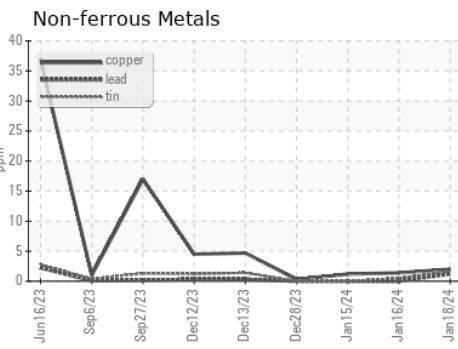
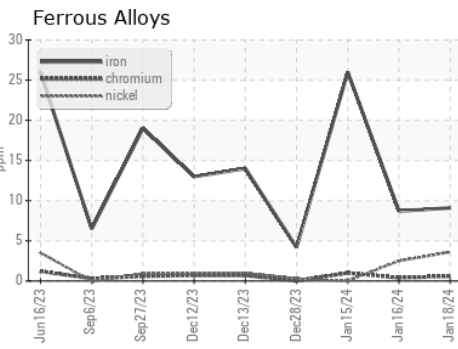
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.9	13.9	12.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108324 **Received** : 23 Jan 2024
Lab Number : **06068207** **Diagnosed** : 23 Jan 2024
Unique Number : 10844884 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: TECHNICIAN ACCOUNT
 catherine.anastasio@wearcheck.com
 T:
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)